17. (Original) A process according to claim 11 wherein a UV light source is applied wherein the UVA intensity is from 0.8 to 1.6 Joules/cm^2, and the UVB intensity is from .001 to 0.5 Joules/cm^2. ~~and the UVC intensity is from .001 to 0.3 Joules/cm^2.~~

18. (Original) A process according to claim 11 wherein the coating is cured under natural light conditions, said light providing an intensity of 5-100 mJoules/ cm^2.

REMARKS

Upon entry of the present amendment, claims 1-18 remain in the application.

35 USC §112

Claims 2-6 and 11-14 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. The office action pointed out that there was no antecedent basis for compound "A" in claims 1 or 11 or compound "B" in claims 2-6 and 12-14. The claims have been amended to designate "(a)" and "(b)". Claim 3 was stated to use improper Markush language in the phrase "selected from" instead of "selected from the group consisting of". The claim has been amended to the proper Markush language. Claim 5 was rejected for improper Markush language and the claim has been amended to delete the first occurance of "and" between "urethane acrylates and unsaturated polyesters". The correction has been made. Withdrawal of the rejections is respectfully requested.

The office action stated that in claims 4 and 14 it was unclear if applicants intended to claim urethane diacrylates, urethane triacrylates or some other kind of acrylates. It was also stated that there was no antecedent basis in claims 1 and 11 for the recitation "urethane acrylates", since compound (b) is defined as containing two or more ethylenically unsaturated groups. Applicants have amended the claims to define that all of the acrylates are urethane acrylates. Urethane acrylates have been deleted due to lack of antecedent basis for these compounds. Withdrawal of the rejections is respectfully requested.

The "polyfunctional acrylates were not clearly differentiated from diacrylates and triacrylates. Applicants submit that poly In claim 6, the polyfunctional urethane acrylates are

not clearly differentiated from difunctional urethane acrylates since difunctional urethane acrylates are polyfunctional. Applicants submit that the polyfunctional acrylates are intended to mean tetra and hexa functional compounds. The claims have been amended accordingly. The amendment is supported in the specification at page 4, par. 14. Claim 11 was objected to for using improper Markush language in step B. It was stated that the first occurrence of "and" before "natural" should be deleted. Claim 12 was rejected for the reason that the first occurrence of "and" before "esters of acrylic acid" should be deleted. Claim 13 uses improper use of Markush language in line 4 and the first occurrence of "and" before "octyl acrylate" should be deleted. These corrections have been made. Withdrawal of the 35 USC §112 rejections is respectfully requested.

35 USC §102 (a) Rejections

Claims 1-17 and 20 were rejected under 35 U.S.C. 102(a) as being anticipated by WO 01/74499 (Fenn et al). The office action stated that the weight percentages of components are within the instantly claimed ranges and the process of using said compositions anticipate the instant claims.

Claims 1-17, 19 and 20 were rejected under 35 U.S.C. 102(e) as anticipated by Fenn et al. (6,838,177). It was stated that compositions disclosed by Fenn disclosed the weight percents of components are within the instantly claimed ranges and the process of using the compositions anticipated the instant claims.

Claims 1-17, 19 and 20 were rejected under 35 U.S.C. (e) as being anticipated by Fenn et al. (U.S. 2003/0059555). It was stated that compositions disclosed by Fenn disclosed the weight percents of components are within the instantly claimed ranges and the process of using the compositions anticipated the instant claims.

Applicants submit that the instant claims are not anticipated by the three Fenn et al. references for the reason that the references teach that the photoinitiator is used in an amount of at least 1-8% preferably 1-3% or 5 to 15%, and in contrast the instant claims teach and define that the initiator is present in an amount of 0.1 to 0.95% by weight. It would be unexpected that coatings with this low level of initiator would cure to a non-tacky cure under UVA radiation exposure only or when exposed only to daylight, without the application of UV lamps. The Fenn reference WO01/74499 teaches that the surface may be tacky after cure under a UV lamp for 1 to

3 minutes, and also see page 11, last 3 paragraphs, page 19, lines 16-17, which teaches wiping with solvent following UV cure. US patent 6,838,177 to Fenn at col. 5, lines 35-45 also teaches that any sticky surface left following cure may be removed by wiping with solvent. The same teaching is found in U.S. Patent Publication 2003/0059555 at paragraph 58. Accordingly, applicants submit that the PPG reference teaches away from forming a fully cured film with a composition comprising a higher level of initiator than that defined in the present invention, under the same or less concentrated UV radiation levels taught in the Fenn references.

For these reasons Applicants submit that the claims are not anticipated by the cited references and accordingly request reconsideration of the claims and withdrawal of the 35 USC 102(a) rejection.

35 USC §103 (a) Rejections

Claim 18 was rejected under U.S.C. 103(a) as being unpatentable Fenn et al. (6,838,177). Fenn et al. was cited as teaching polymerization by exposure to UVA light, but did not teach polymerization by exposure to natural light. The office action concluded that it would have been obvious to one of ordinary skill in the art to substitute natural light exposure for UVA light exposure because natural light provides exposure to UVA radiation. One of ordinary skill in the art would be motivated by an expectation that the disclosed compositions would cure when exposed to natural light.

Applicants submit that the Fenn reference (US Patent No. 6,838,177), does not render the instant claims obvious. The reference fails to teach or suggest that the level of photoinitiator from 0.1 to 0.95% by weight. Additionally the references teach away from dropping the photoinitiator level below 1% because the specification teaches that at the levels of 1 to 8% photoinitiator, the composition may be tacky following exposure to UV radiation for 1 to 3 minutes, while the instant claims define that the coating is cured to a non-tacky surface after 2 minutes exposure to UV radiation.

Prior Art of Record but Not Relied Upon

Smith et al. (5, 407,972) was cited for disclosing ethylenically unsaturated compounds curable with UVA in sunlight in 1 to 5 minutes. Bisphenol (2,5-dimethylbenzoyl)phosphine

oxide was taught as a useful photoinitiator. This reference generally teaches the use of a radiation curable ethylenically unsaturated monomer added to sulfides to enhance UV curability. The reference does not teach the use of a mixture of ethylenically unsaturated monomers defined in the instant claims.

GB 2 283 975 discloses compositions comprising components equivalent to instantly claimed component a-d and f, where the photoinitiator can be a benzylketal. The difference in GV '975 is the teaching of exposure to UVA for 20 seconds followed by completing the cure by exposure to heat. This reference is distinguished from the instant claims in that the instant claims do not require the application of heat for a thermal cure.

Conclusion

In view of the arguments set forth above and the amendments to the claims Applicants respectfully request withdrawal of the rejections and reconsideration and allowance of the claims.

Respectfully submitted,

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